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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,329	10/07/2003	James C. Liu	10030335-1	5424
7590	04/13/2005			EXAMINER BENSON, WALTER
AGILENT TECHNOLOGIES, INC. Intellectual Property Administration Legal Department, DL429 P.O. Box 7599 Loveland, CO 80537-0599			ART UNIT 2858	PAPER NUMBER

DATE MAILED: 04/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/680,329	LIU ET AL.
	<b>Examiner</b> Walter Benson	<b>Art Unit</b> 2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1)  Responsive to communication(s) filed on 07 October 2003.

2a)  This action is **FINAL**.                    2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4)  Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) 1-8 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 9,13-16 and 19 is/are rejected.

7)  Claim(s) 10-12, 17, 18, and 20 is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/07/03.

- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group II; claims 9-20 in the reply filed on 2/22/05 is acknowledged.
2. Claims 1-20 are pending. Claims 1-8 are withdrawn.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 9, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Nakayama et al. (US Patent No. 6,421,624 B1 and Nakayama hereinafter).

5. As to claims 9 and 16, Nakayama discloses a calibration module comprising:  
a controller (28, Fig. 15);

a multi-state circuit, including:

a first port (P1, Fig. 14);

a second port (P2, Fig. 14);

a third port (P3, Fig. 14);

a first switch connected to the first port (SW1, Fig. 14);

a second switch connected to the second port (SW2, Fig. 14);

a third switch connected to the third port (SW3, Fig. 14);

where a first pole of the first switch, a first pole of the second switch, and a first pole of the third switch are all connected together through transmission lines (SW1, SW2, SW3, Fig. 14).

6. As to claim 14, Nakayama discloses a calibration module comprising:

the first switch is connected to the first port through a transmission line (TR1, P1, Fig. 14);

the second switch is connected to the second port through a transmission line (TR2, P2, Fig. 14);

the third switch is connected to the third port through a transmission line (TR3, P3, Fig. 14).

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 13 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama in view of Adamian et al. (US Patent No. 6,826,506 B2 and Adamian hereinafter).

Although the system disclosed by Nakayama shows substantial features of the claimed invention (discussed in the paragraphs above), it fails to disclose:

the first switch includes field effect transistors arranged so that the first switch can provide an open to the first port and can provide a short to the first port;  
the second switch includes field effect transistors arranged so that the second switch can provide an open to the second port and can provide a short to the second port.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Nakayama, as evidenced by Adamian.

Adamian discloses a system for calibrating a multiport test system for measuring a DUT having:

the first switch includes field effect transistors arranged so that the first switch can provide an open to the first port and can provide a short to the first port (col. 17, lines 44-47 and col. 18, lines 21-23);

the second switch includes field effect transistors arranged so that the second switch can provide an open to the second port and can provide a short to the second port (col. 18, lines 34-37).

Given the teaching of Adamian, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Nakayama by employing the well known or conventional features of switching technology, such as disclosed by, Adamian in order to provide for an N port automatic calibration device.

9. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakayama in view of Peach et al. (US Patent No. 6,300,775 B1 and Peach hereinafter).

Although the system disclosed by Nakayama shows substantial features of the claimed invention (discussed in the paragraphs above), it fails to disclose:

a data port operable to communicate with test equipment.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Nakayama, as evidenced by Peach.

Adamian discloses a system for calibrating a multiport test system having:

a data port operable to communicate with test equipment (col. 6, lines 63-66).

Given the teaching of Peach, a person having ordinary skill in the art at the time of the invention would have readily recognized the desirability and advantages of modifying Nakayama by employing the well known or conventional features of data transfer technology, such as disclosed by, Peach in order to efficiently transfer data on the bus for N port automatic calibration device.

***Allowable Subject Matter***

10. Claims 10-12, 17, 18, and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The prior art of record fails to teach in combination as claimed an apparatus and method for multi-port calibration module including a fourth switch connected to a second pole of the first switch, a first pole of the fourth switch being connected to a first load. A fifth switch connected to a second pole of the second switch, a first pole of the fifth switch being connected to a second load.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter Benson whose telephone number is (571) 272-2227. The examiner can normally be reached on Mon to Fri 6:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Walter Benson  
Patent Examiner

April 7, 2005